



# INVESTOR MEETING 2014

SANTA CLARA    NOVEMBER 20



# INVESTOR MEETING 2014

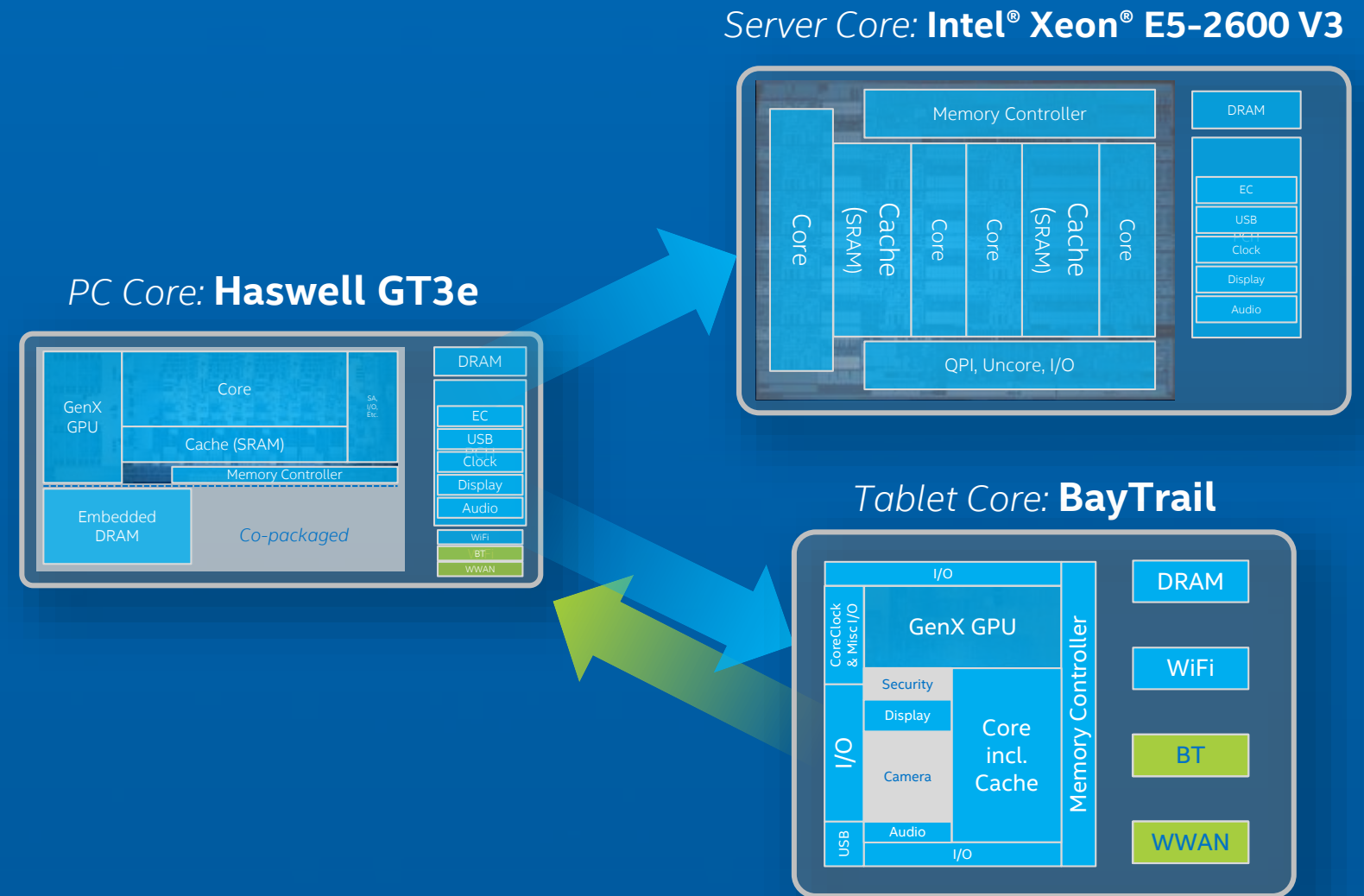
Renée James

President



# Intel Growth & Technology Investments

- Utilizing Intel IP in adjacent segments of computing & enabling new businesses
- Invest in Intel platform value to maintain differentiation & leadership
- Extend the Intel Architecture into emerging and growth segments of computing & devices



# Key Areas of Strategic Platform Investments



**Mobile & Communications:** Computing and devices will all be connected as will IOT. Key area of platform investment for communications as well as growing Mobile Intel Architecture footprint in tablets and phones



**Security & Privacy:** Central to the cloud and network computing platforms. Accelerated and made more secure with the Intel Architecture extensions to our platforms and a growing business opportunity



**Internet-of-Things:** Connected and intelligent embedded represents a growth business opportunity extending from a strong base of IA architecture into new segments and emerging IOT businesses



**Wearables:** Inspiring the next generation of connected devices to develop and emerge on Intel Architecture



**Storage & Memory:** Growing portion of the balanced computing system and overall platform representing another growth opportunity for Intel

# Today's Detailed Discussions

Communications Platform & Mobile Technologies

The Internet of Things and Connected Embedded

Storage and Memory

# Agenda

Communications Platform & Mobile Technologies

The Internet of Things and Connected Embedded

Storage and Memory

# Mobile and Communications Platform Strategy

- Leadership communications and connectivity development scaling across multiple segments:
  - IOT, Tablet, PC, Datacenter and Phone
  - Communications including WiFi and Cellular ,BT, BLE, NFC , etc,
- Mobile platform investments lead innovation in low power and integration for all platforms
- Mobile platform designs lead Intel in new development methodology for faster derivatives and partner platform expansion

Investing for leadership in multi-comms and mobility

# Intel's Strategic Investment in Mobile & Comms

---



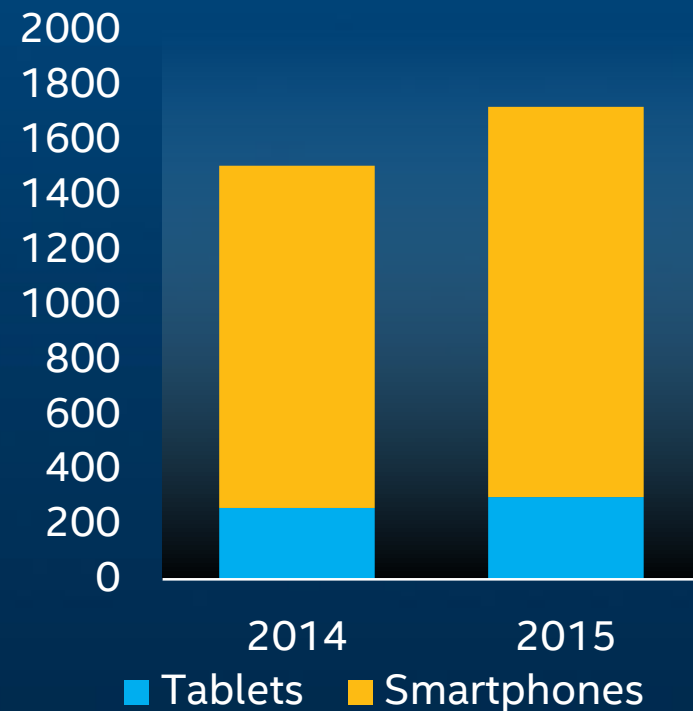
**Hermann Eul**

Vice President, General Manager  
Mobile and Communications Group



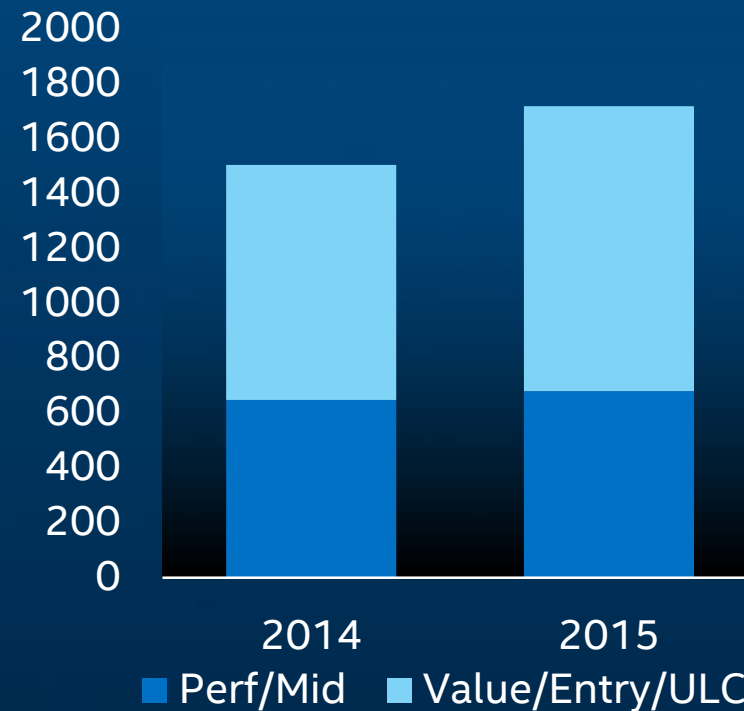
# Mobile Market Trends

Smart Mobile Devices  
~15% Growth



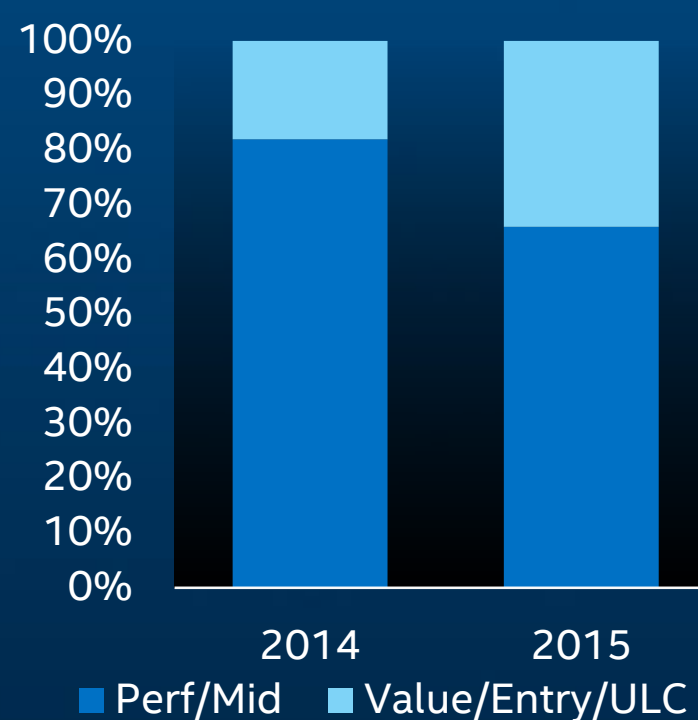
Total Smart Mobile Devices (Mu)

Low-End Growing  
5x Faster



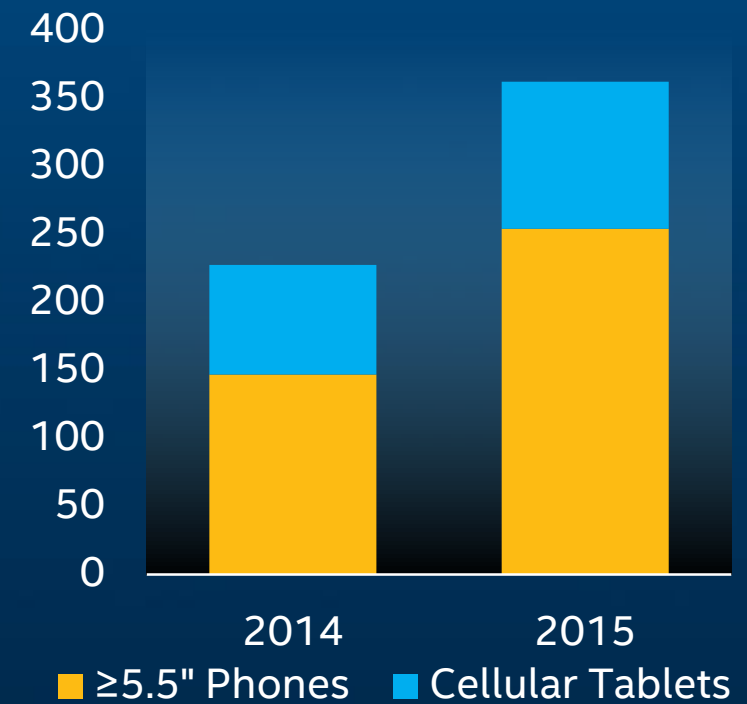
Total Smart Mobile Devices (Mu)

LTE Grows ~60%  
Low-End 200%



Smart Mobile Device - LTE Mix (%)

60% Growth  
in Phablets



≥5.5" Cellular Smart Mobile Devices (Mu)

# Our Focused Strategy to Win in 2014

## Grow IA Mobile Footprint

*Tablets, Cost Reduce, Differentiate*

## Global Leadership In Communications & Connectivity

*Full IP Portfolio that Benefits All Intel Platforms*

## Capture and Lead Growing Value and Entry Segment

*Leadership Products, CTE, Partners*

# Mobile Strategy is Paying Off

Application Processors, Communications & Connectivity Solutions

## 40M Tablet Volume On Track

*#1 Merchant Tablet Supplier, #2 Tablet Supplier Overall\**

## Delivered World Class Advanced LTE

*Globally Competitive, Accelerated Rate of New Product Development*

## First Integrated IA + Comms (SoFIA) On Track

*SoFIA for the High Growth Value and Entry Market*

# 40M Tablets

~100 OEM ~350 ODM Designs  
in Market or Coming to Market

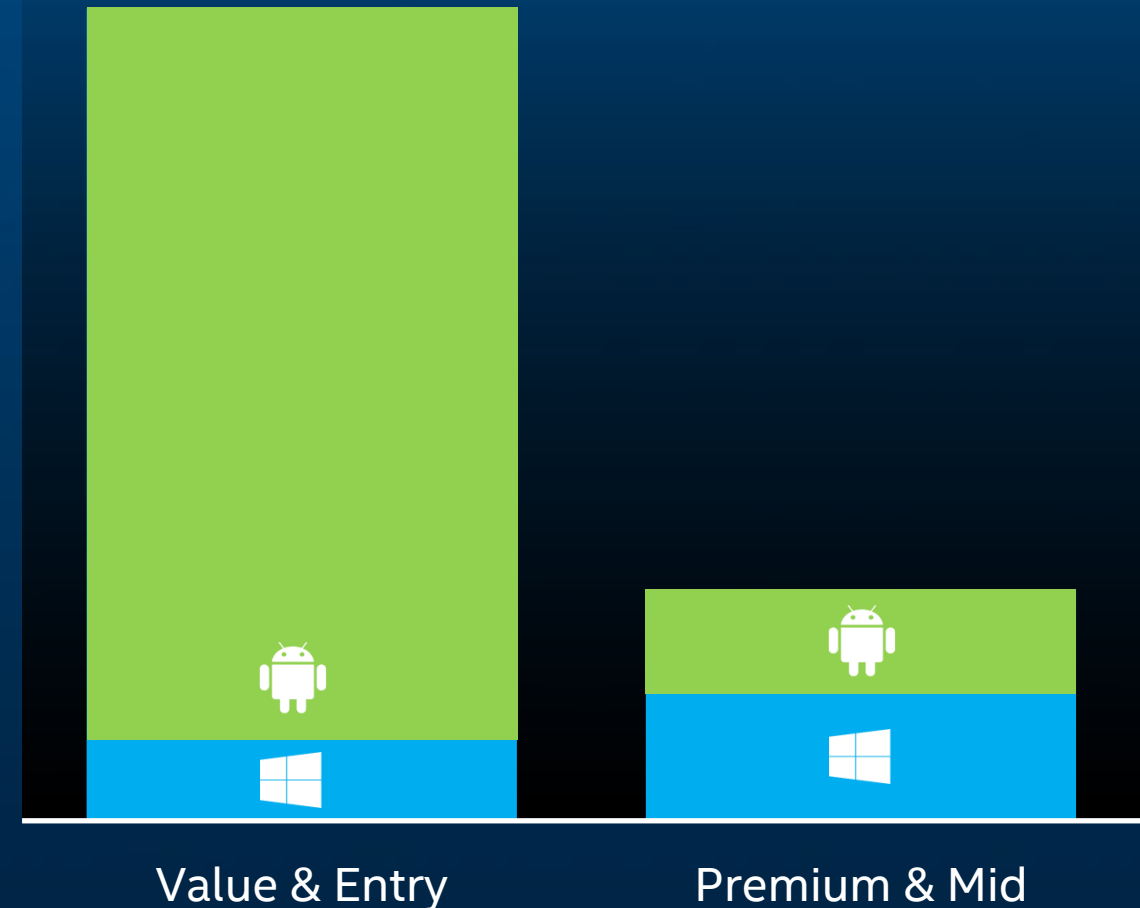
Long Term Customer Partnerships

~20% WWAN Connected

Channel & Marketing Campaigns

Platform & eBOM Cost Reduction

## 2014 Designs



Source: intel Internal



# Showcase Designs

Thinnest Tablet,  
Immersive Visuals



Dell Venue 8 with  
Intel® Realsense™  
Snapshot

Great for Education  
and Kids



FUHU DreamTab

Innovative Designs:  
Sleek, Unique  
and 2 in 1s



Lenovo Yoga 2 Pro Tablet

# Turnkey Program for OEM/ODM's

Master  
Reference  
Design



Tools &  
Support



  
and Channel  
Match-making

>350 Global Designs

>30 ODM, PCBA Partners

45% of Intel Powered Tablets Sold In '14\*



**YIFANG**  
**Digital**



# Performance & Experience Matters

## At All Price Points

### Web Browsing

Loading your web content

On Intel® Atom™ Processor Z3580 vs.  
Octa-core MediaTek\* MT8392

Up to  
**53%**  
Faster<sup>(1)</sup>

1) As measured by web page content load  
test

### Create & Edit Content

Edit pictures and videos

On Intel® Atom™ Processor Z3580 vs.  
Octa-core MediaTek\* MT8392

Up to  
**150%**  
Better<sup>(2)</sup>

2) As measured by MobileXPRT\* 2013  
Performance Score

### Online Activities

Stock Dashboard Updates

On Intel® Atom™ Processor Z3580 vs.  
Octa-core MediaTek\* MT8392

Up to  
**200%**  
Faster<sup>(3)</sup>

3) As measured "Stocks Dashboard" subtest  
of WebXPRT\* 2013

## Intel Inside Delivers A Better User Experience

#### Device Configurations:

(1) ASUS\* MeMO Pad 8 (ME581C): Intel® Atom™ Processor Z3580 (4T4C Silvermont, up to 2.33GHz), PowerVR G6430 Graphics, 2GB RAM, 32GB storage, 8" screen with 1920x1200 resolution, Android\* 4.4.2

(2) Cube\* Talk 9X\*: MediaTek\* MT8392 (8C8T Cortex\*-A7, 2.0GHz), ARM\* Mali-450MP4 Graphics, 2GB RAM, 32GB storage, 9.7" screen with 2048x1536 resolution, Android\* 4.2.2



# Applications Run Great On Intel

## Windows & Android

Android Apps  
“Just Work”



Top 2K Applications  
 $\geq$  Performance

Top Apps Native



Better Performance  
vs.  
Competitive Platforms

Full Developer Support



SDKs & Tools  
Windows & Android

# Intel and Android Momentum

## Intel Inside Android TV Nexus Player



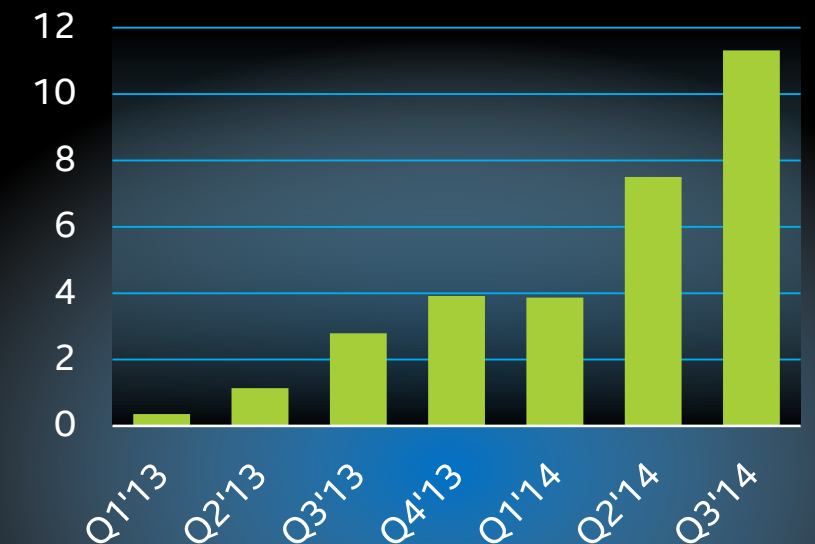
Expanding Our Mobile  
Platform

## Intel Reference Design for Android



Scale More Android Devices  
for Value Segment

## Shipments on Android (Mu)



Steady Increase of Android  
Shipments on IA

# Smartphones

## New Family of Asus Smartphones



ASUS  
MeMo Pad 7



ASUS  
PadFone X mini



ASUS  
Fonepad 7 ME372CL

## Communications for Smartphones



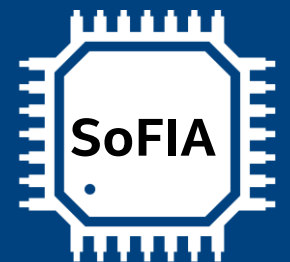
*Intel LTE  
Advanced*  
Samsung Galaxy  
Note 4 & Alpha  
LG G3

## New Products & Partners

**lenovo**

**Rockchip**  
瑞芯微电子

**SPREADTRUM**



# LTE Ramp

Shipping Today with Carriers in U.S., Latin America, Europe, SE Asia

## LTE Advanced Launch Global 5 Mode

Intel® XMM™ 726x



## > 25 Designs In Market

Intel® XMM™ 7160 and 7260



## Modules

Tablets, 2 in 1s & Ultrabooks™





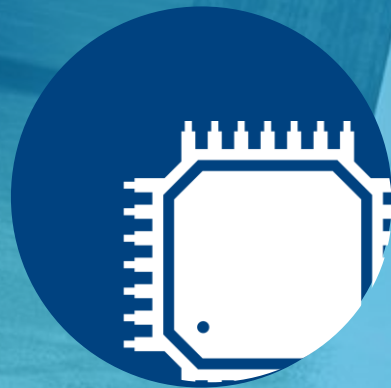
# Solid Foundation to Fuel Growth



Strong  
Partners



Design  
Pipeline



Products



Ecosystem

# 2015: Focused Expansion

---

# SoFIA Family On Track for 2015 Ramp

First Integrated Intel Architecture & Intel Communications Solutions

Cost Optimized for  
Value & Entry

SoFIA 3G

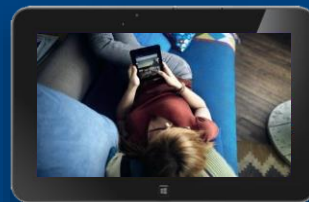
SoFIA 3G-R

SoFIA LTE

Single Platform



Phablets



Tablets



Phones

Scale Partners

**Rockchip**  
瑞芯微电子

**SPREADTRUM**

# Communications and Connectivity Advantage

## Key for Platform & Industry Innovation

Complete IP  
Portfolio

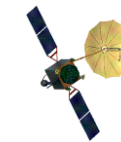
4G

3G

2G



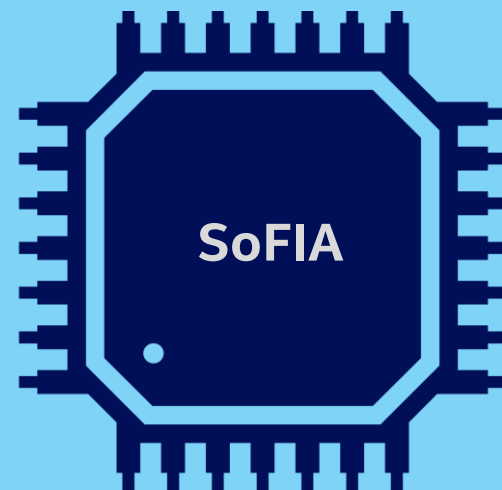
GNSS



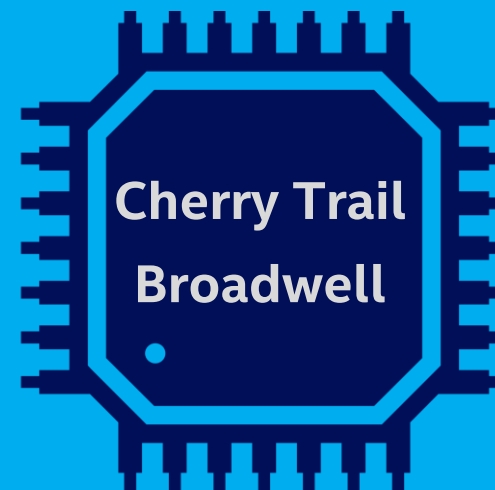
FM Radio



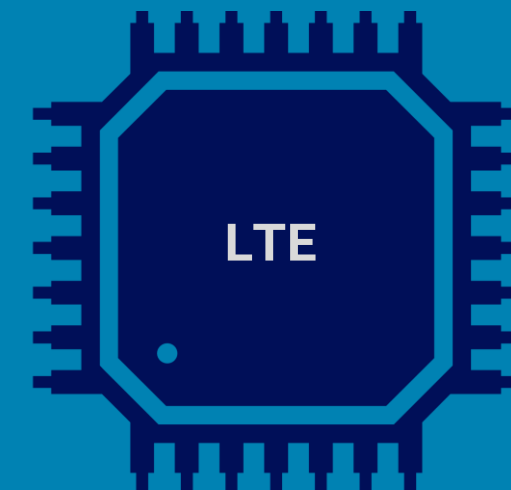
Integrated



Modules



Discrete



2015  
Platforms



# Communications and Connectivity For All Platforms

Broad Portfolio Enables Integration for Cost & Performance

## Standards & Industry Leadership



# Performance & Mid Mobile Platform Portfolio

2015				2016	
<b>LTE Advanced</b>  XMM 7260 ramp, XMM 7360  Next-Gen: Cat 10, 3 CA, up to 450 Mbps D/L	<b>Bay Trail</b>  Quad Core Silvermont 22nm	<b>Moorefield</b>  Quad Core Silvermont 22nm	<b>Cherry Trail</b>  Quad Core Airmont 14nm	<b>Broxton</b> <i>Performance</i>  Quad Core Goldmont 14nm	<b>SoFIA MID</b>  Quad Core LTE 14nm, Intel Mfg

# Value & Entry Mobile Platform Portfolio

2015				2016
<b>Bay Trail Entry</b>  Quad Core Intel® Atom™	<b>SoFIA 3G</b>  Integrated 3G Dual Core Atom™ Q4'14	<b>SoFIA 3G-R</b>  Integrated 3G Quad Core Atom™ 1H'15	<b>SoFIA LTE</b>  Integrated LTE Quad Core Atom™ Starting Mid 2015	<b>SoFIA LTE 2</b>  Quad Core 14nm, Intel Mfg

Derivative Products & Reselling



# Our Focused Strategy To Win

Grow IA Mobile Footprint

*Best Experience on IA*

Global Leadership In Communications & Connectivity

*Expanding IP Portfolio to All Intel Platforms*

Capture and Lead Growing Value and Entry Segment

*SoFIA, CTE, Partners*

# Agenda

Communications Platform & Mobile Technologies

The Internet of Things and Connected Embedded

Storage and Memory



# IOT Platform Strategy

- Leadership Intel products for connected, intelligent IOT solutions utilizing low power IA investments as well as communications
- Combined software and hardware to create solutions approach to the market and enabling selected verticals like Retail, Automotive, etc. *(combined WindRiver into IOT group)*
- Deep knowledge and experience with design and life cycles of embedded devices and markets provides leadership opportunity
- Provides current and future adjacent growth opportunity, utilizing assets of other communication and mobile investments

# Extending Core IP to New Markets

---



**Doug Davis**

Vice President, General Manager  
Internet of Things Group

# Key Messages

Big opportunity evolving from a market footprint we've been in for 30+ years.

Leading with solutions and technology across Intel.

Well positioned with end-end capabilities necessary  
to deliver the value of the IOT.

# The Internet of Things is...

**50B**  
DEVICES\*

Sensors



Home/  
Industrial

Gateway

Network

Mobile

DC/Cloud

**44**  
ZETABYTES\*\*

COST OF  
SENSORS  
PAST 10 YEARS **2X**  
↓

COST OF  
BANDWIDTH  
PAST 10 YEARS **40X**  
↓

COST OF  
PROCESSING  
PAST 10 YEARS **60X**  
↓

\* IDC

\*\* IMC/EDC: The Digital Universe of Opportunities

\*\*\* Goldman Sachs

\*\*\*

# Internet of Things Group

>20% CAGR  
~40% MSS

## Retail



Transactional Retail



Visual Retail

>30% CAGR  
<10% MSS

## Transportation



Software Defined Cockpit



Autonomous Vehicles

>10% CAGR  
<10% MSS

## Mfg/ Indu/ Energy



Smart Mfg



Energy

>10% CAGR  
~20% MSS

## Segments\* & Broad Market



DSS



Gaming



Health



MAG



Print Imaging

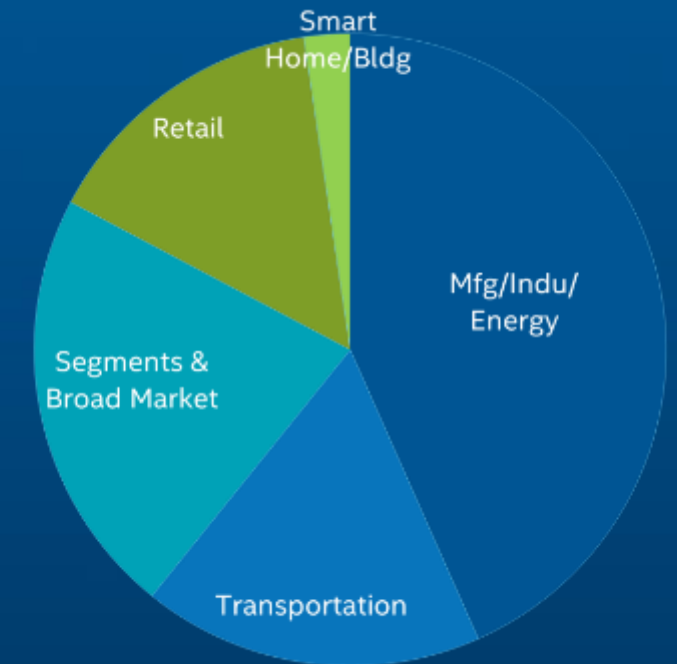
## New IOTG Market Sector



Bldg Automation



## IOTG Market Segment Opportunity



- '15 SAM = \$11-\$13B\*
- \$2.1B in 2014\*
- IOTG ~17% MSS
- 18% YoY growth

CAGR is '09-13 SOM revenue; MSS is calculated with silicon revenue SAM; SAM is 32bit+ MPU/ASSP/ASIC with non-focused MPU/ASSP/ASIC devices removed; based on IDC 2013 eMPU report . Includes other embedded vertical investments.

\* 2014 Intel forecast

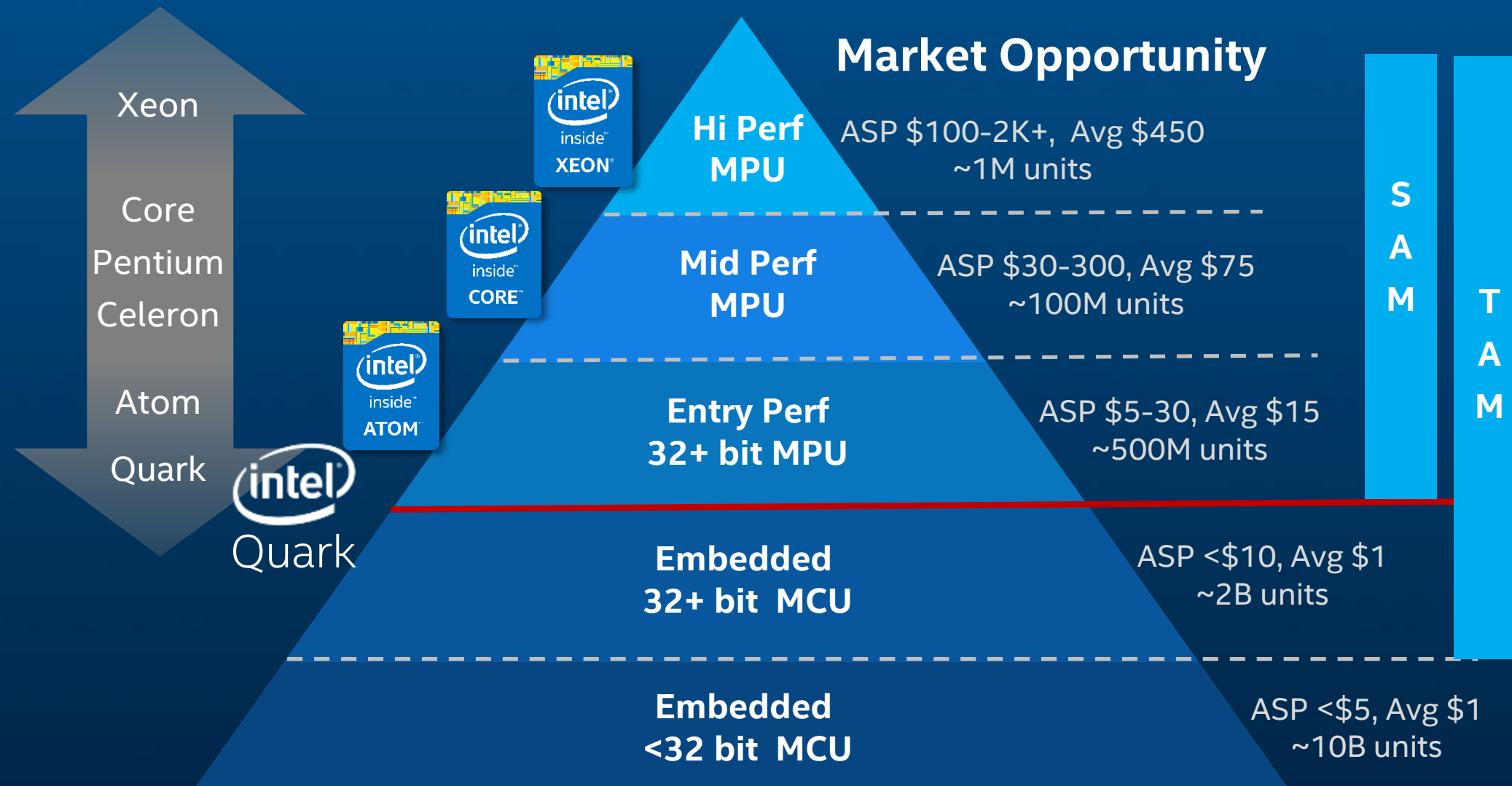
## WIND RIVER

intel  
Quark





# IOTG Benefits from Shared IP



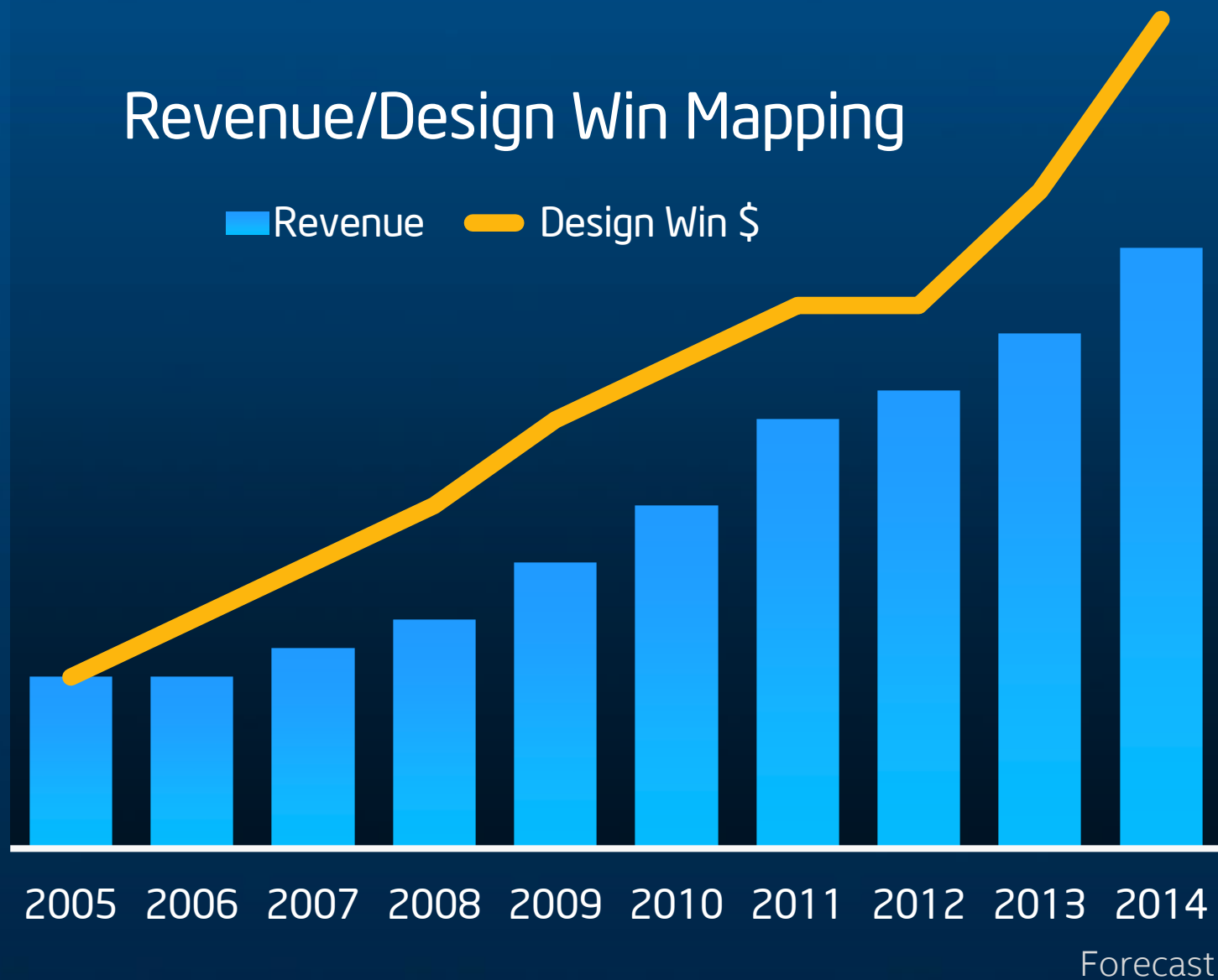
MPU includes MPU, and core based ASSP/ASICs

Source: IDC, IHS, Gartner, Intel

# Internet of Things Group

## Revenue/Design Win Mapping

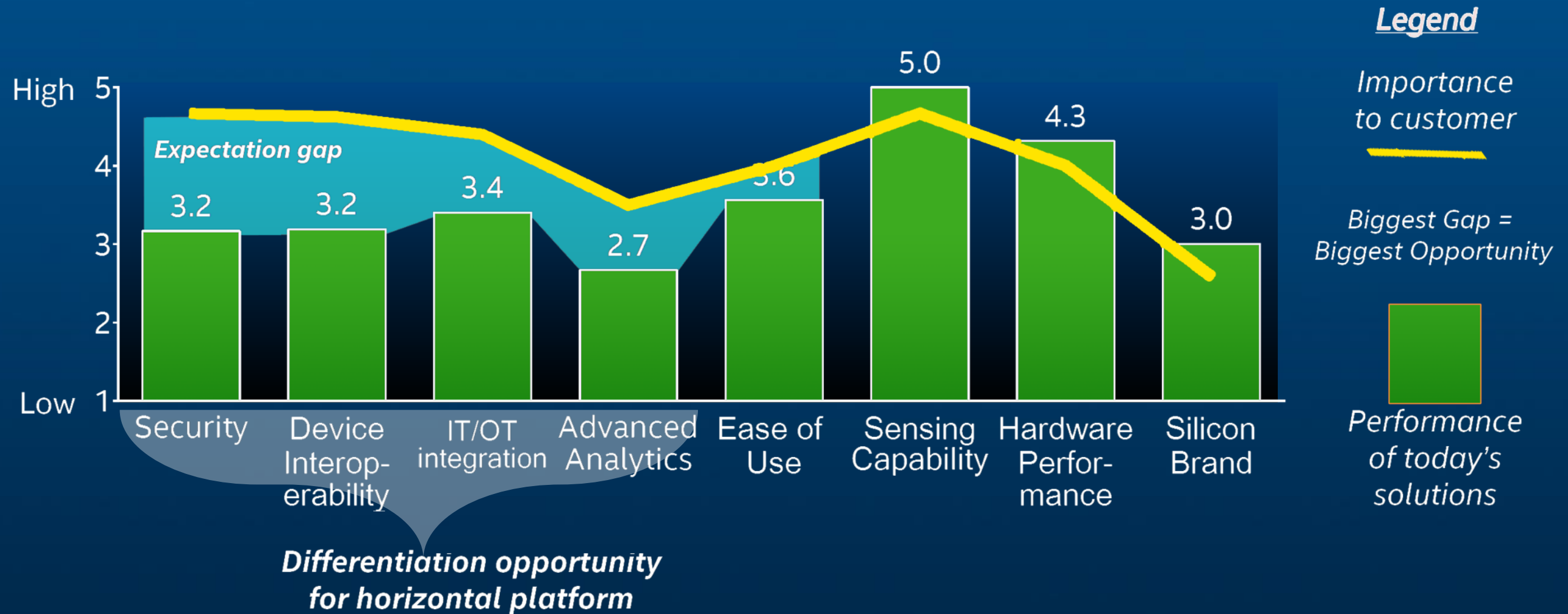
■ Revenue    — Design Win \$



## Performance

Design win momentum continues across all segments

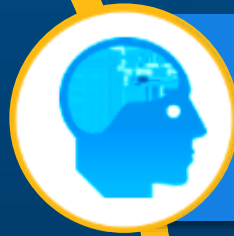
# IOT Challenges



# Essential Tenets of Edge to Cloud IoT Solutions



Monetize HW, SW, and Data Management



Actionable Analytics



Data Normalization



Connectivity, Device Discovery, and Provisioning



Security as the Foundation - HW and SW

# Industry Alignment is Critical



## IIC Founder Companies



## OIC Board of Directors





# IOT Delivers Results



NCR POS w/ Intel® DPT and vPro for Transactions:  
Reducing fraud through e2e encryption.

Potential US Benefits:  
**100M credit card numbers stolen in 2013**



Intel's Assembly / Test – sensors and analytics help maintain productivity.

Measured Benefits:  
**\$9M/ year**



Vnomics solution: 6% increase in fuel economy across 100% of fleet = \$15M / Year

Potential US Benefits:  
**38 Million Tons** of CO<sub>2</sub>



Di-BOSS (Digital Building Operating System) + Cisco Energy Management: Electrical, Steam and Water

Saved \$1M in 1 Building / Year  
**\$.50/sq ft.**



**Rudin Management Company, Inc.**

# Solutions for IoT and Developers

## Service Management

- API Management
- API Orchestration
- Intel Express Gateway & Tokenization
- Intel Security Solutions
- Wind River Systems

WIND  
RIVER



Comms: 3G, LTE, Wifi, Bluetooth, NFC, GPS...

## Things

- Personal devices incl wearables
- Cars, Home automation
- Manufacturing equip



## Gateways

- Home: Puma Gateway
- Industrial: Moon Island Gateway



## Network

- SDN: Software Defined Networks
- ONP: Open Networking Platform
- NFV: Network Function Virtualization



## Datacenter

- Intel Data Center Manager
- Intel Data Platform
- Software Defined Infrastructure



...



...

Optimized on  
Intel Architecture



# Summary

Big opportunity evolving from a market footprint we've been in for 30+ years.

Leading with solutions and technology across Intel.

Well positioned with end-end capabilities necessary  
to deliver the value of the IOT.

# Memory as Platform

- As computing architectures continue to scale, memory continues to be a critical piece of the platform architecture, especially in the datacenter
  - Intel continues to drive innovation in memory technology
- Solid-state drives are only at the beginning of the adoption curve providing a significant business growth opportunity

# CPU and Data: Better Together

---



**Rob Crooke**

Vice President, General Manager  
Non-Volatile Memory Solutions Group



# Key Messages

Sustained innovation has delivered profitable growth

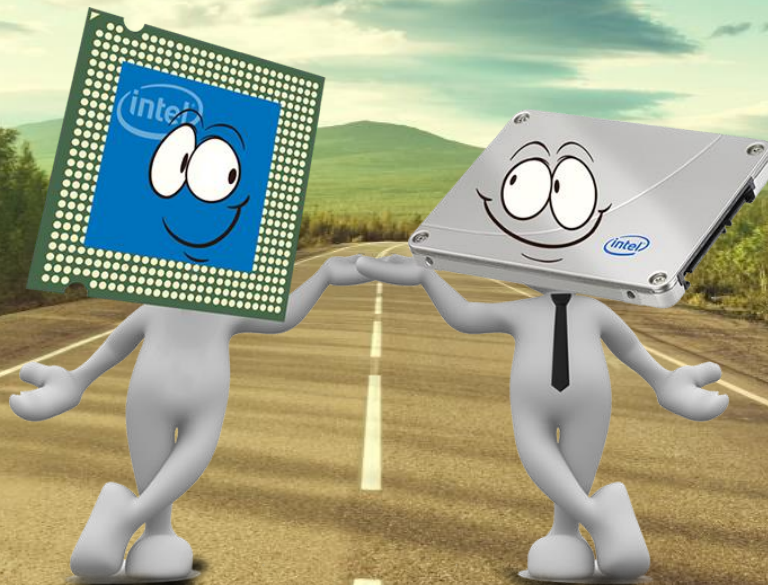
Key IT challenges can be addressed with CPU + storage together

Computing insight and platform optimization are a unique advantage

Our Strategy: Technology Driven. Customer Inspired. Platform Connected.

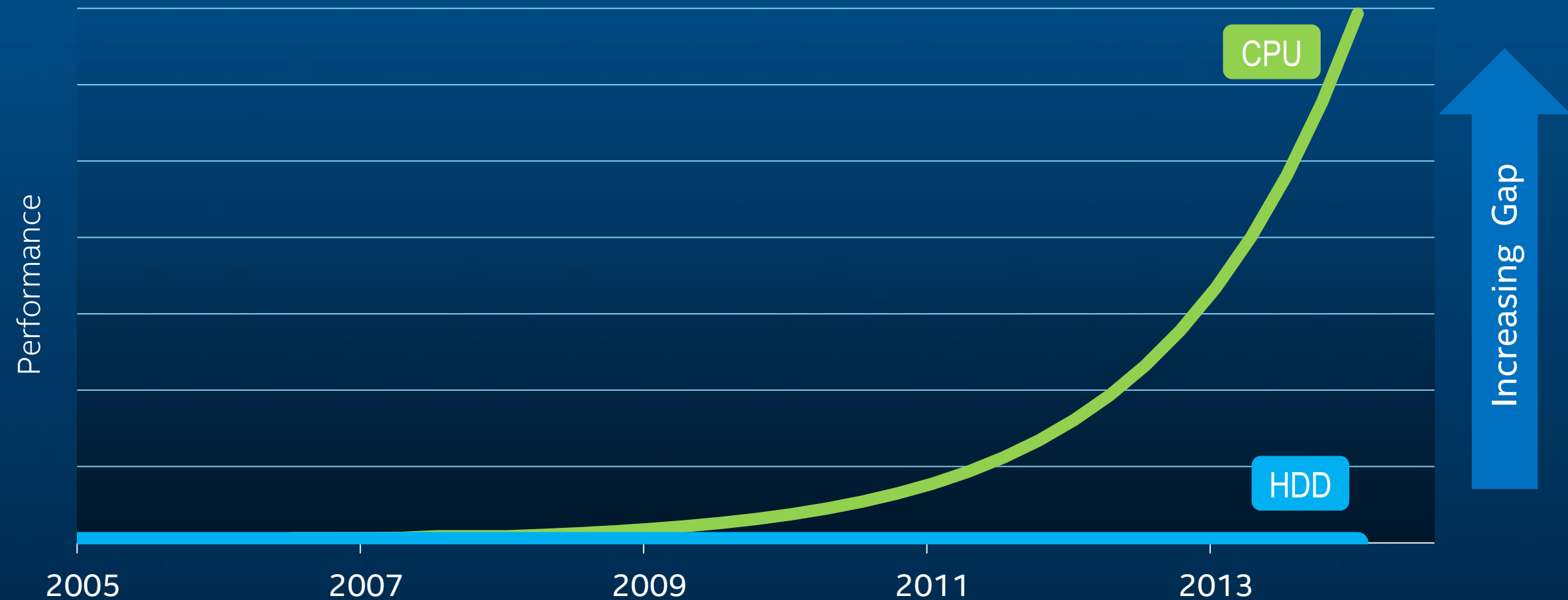


Data wants to be close to the CPU... Economics keeps them apart



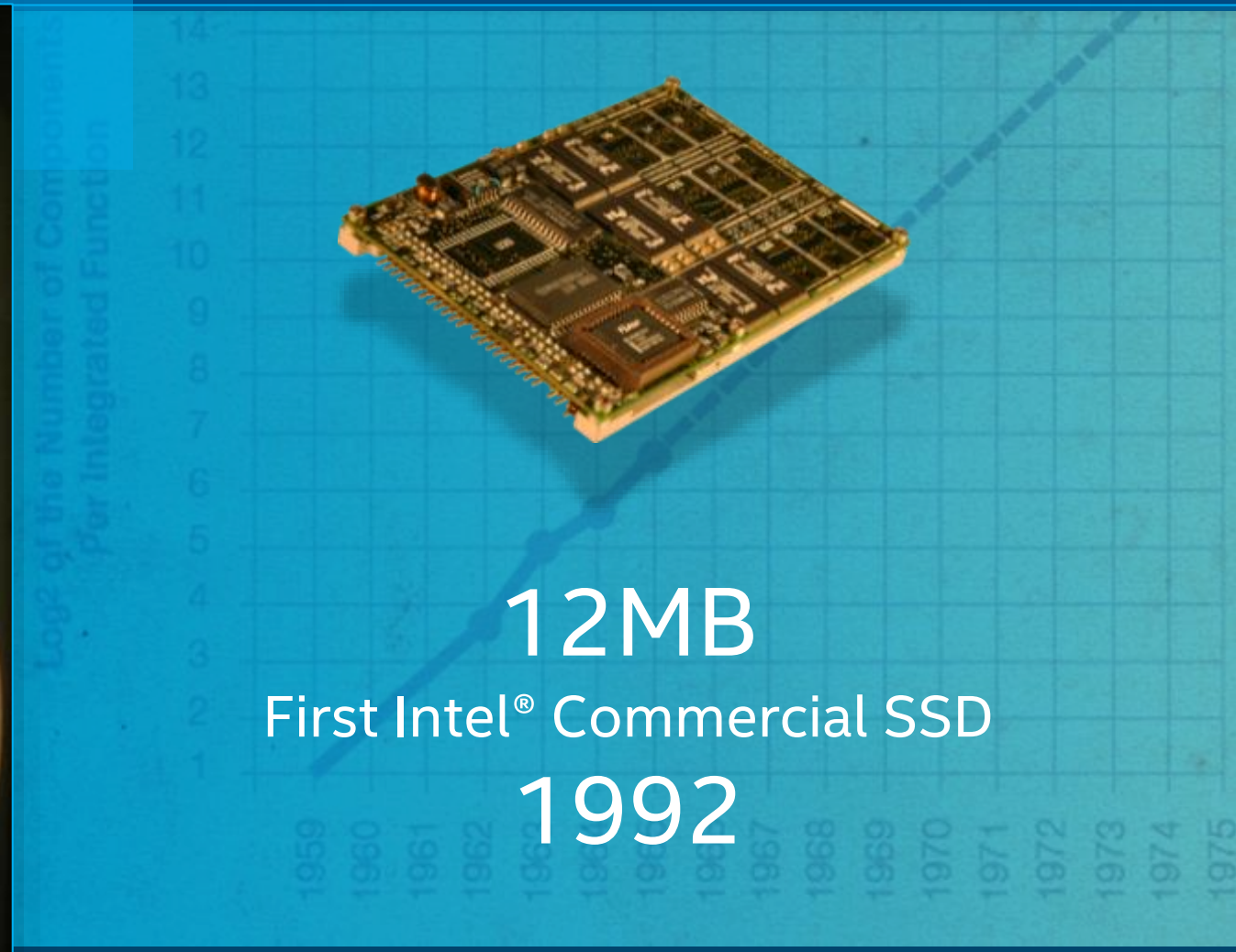
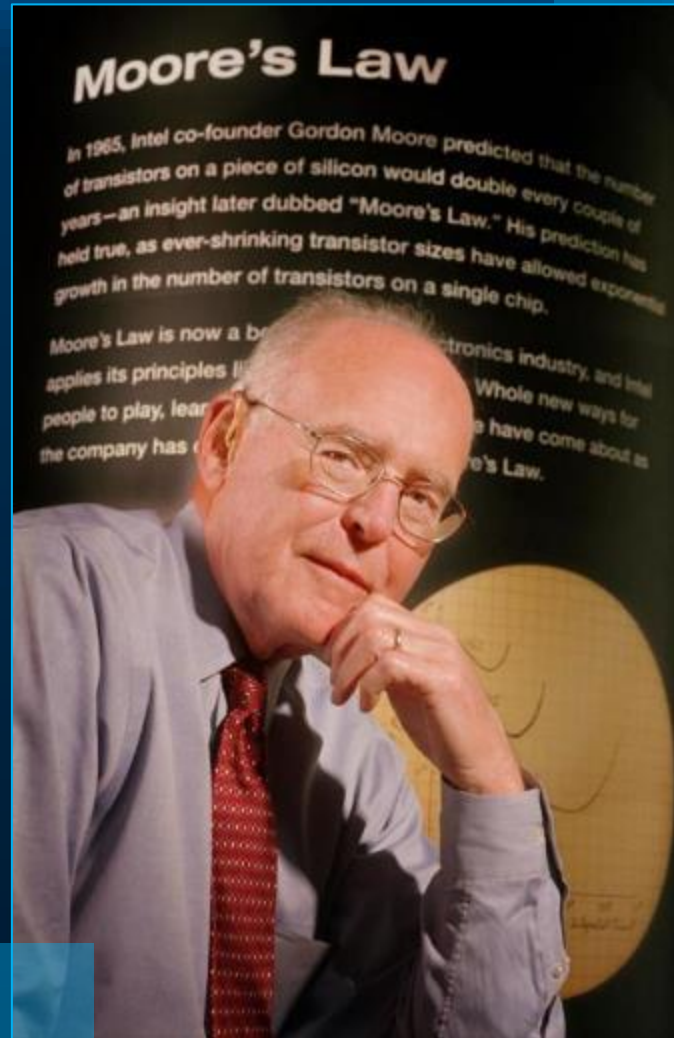


# The Increasing Gap

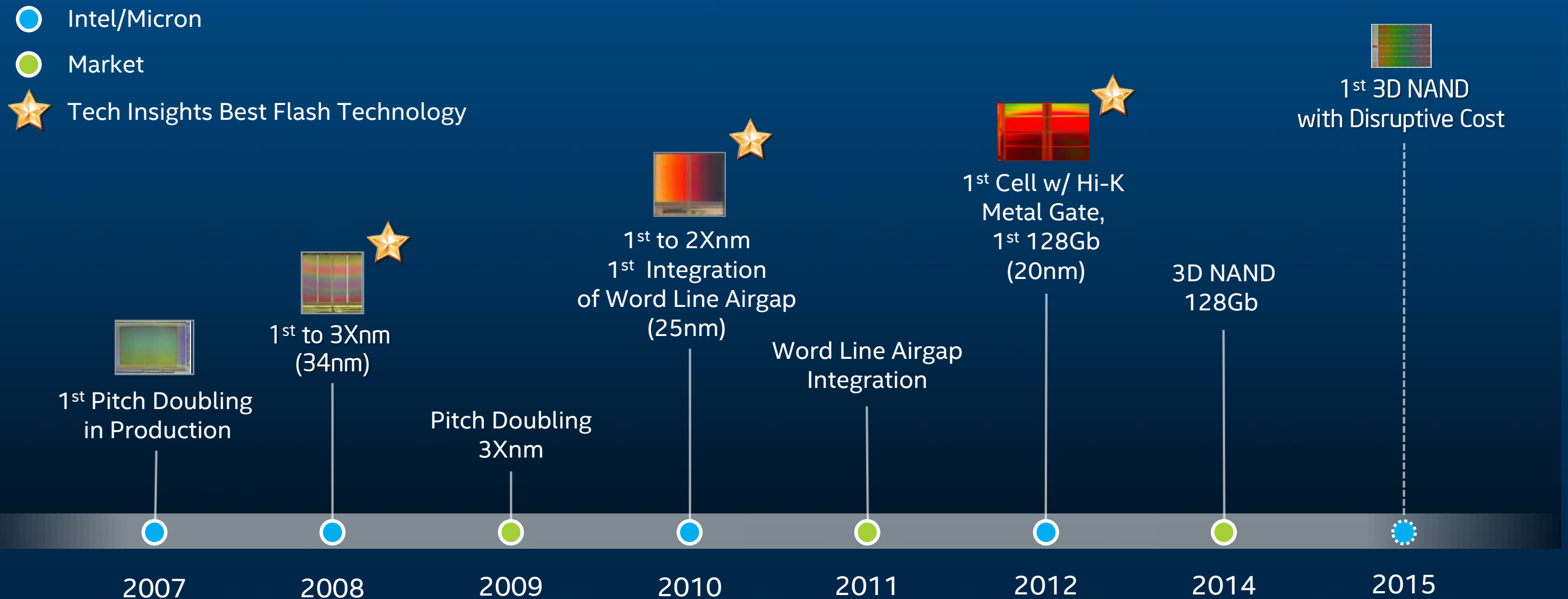


Memory & storage critical to scaling computing

# Intel® Solid-State Drive a Multi-Decade Journey

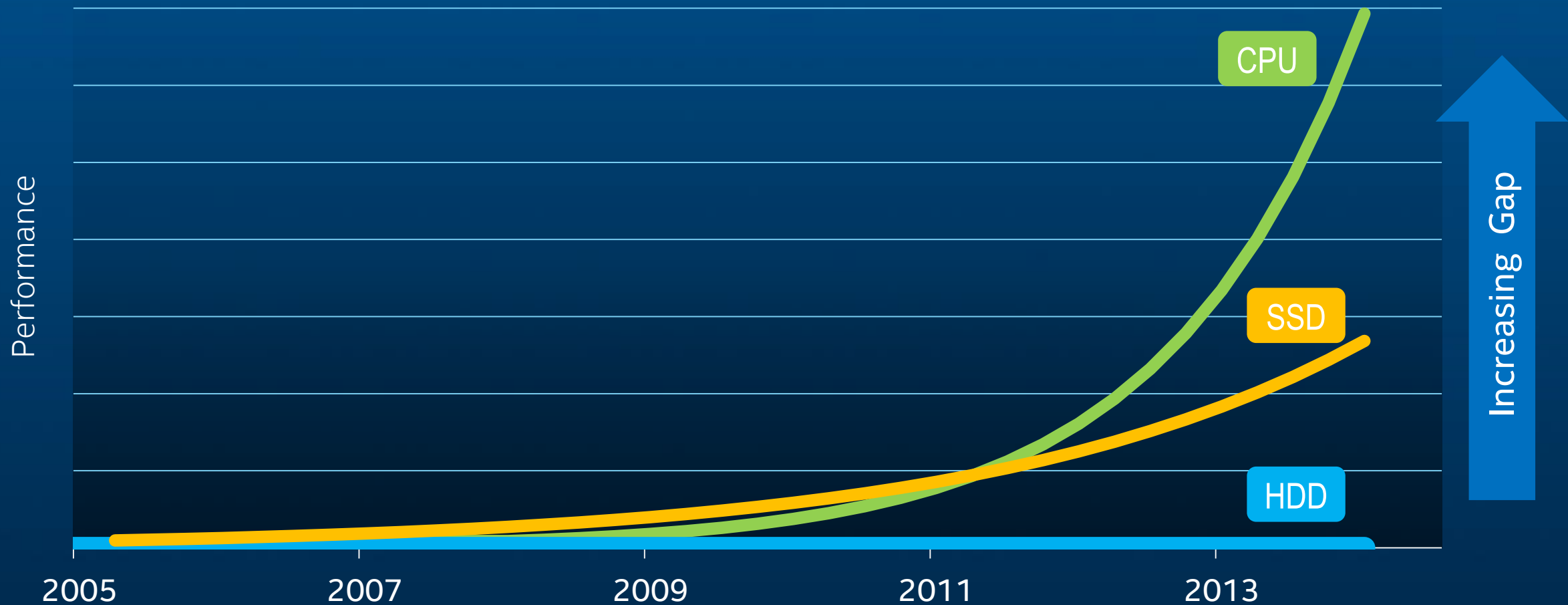


# Technology Leadership Through the Years





# The Increasing Gap



SSDs address the performance gap

# Intel Creates an Industry



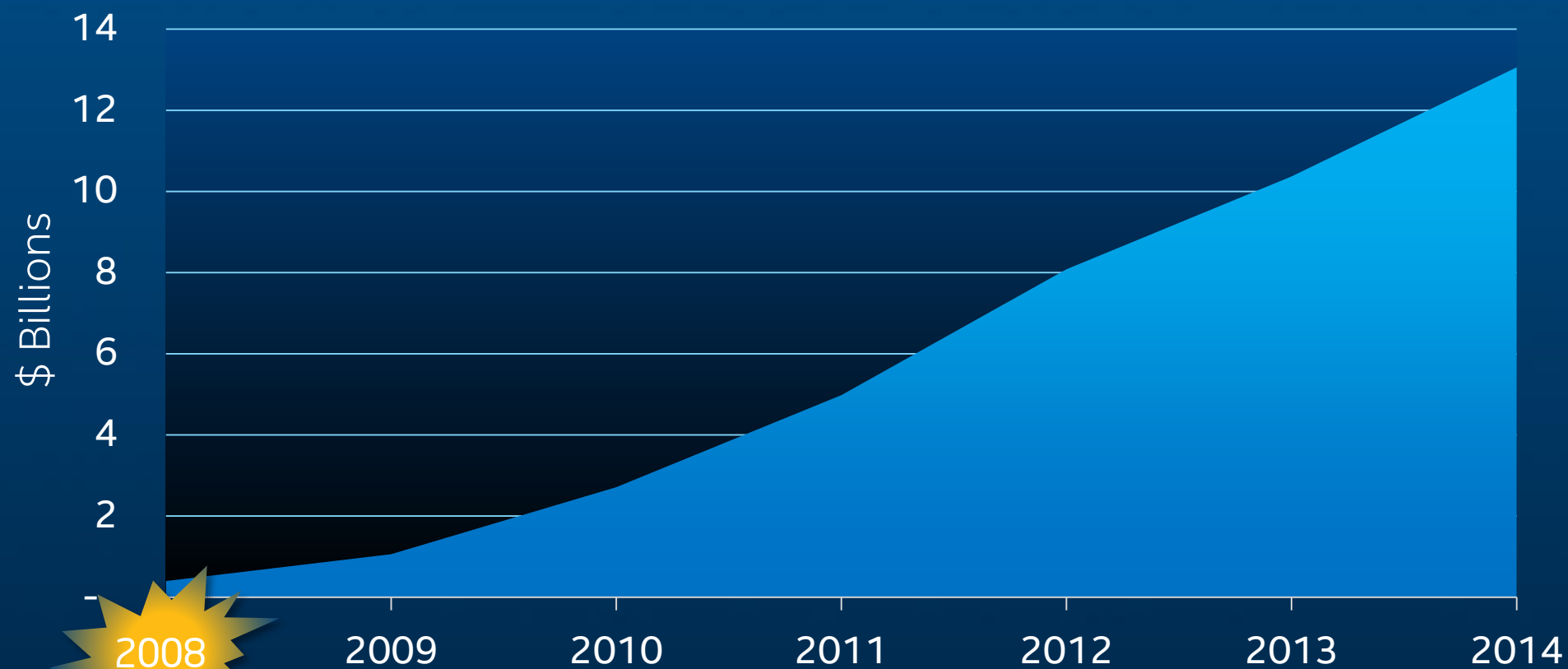
*"The Intel X25-M 80GB SSD is screaming fast and blows away all of the previous best storage options!" - 2008*



*"This, ladies and gentlemen, is absolute domination. The X25-M thoroughly outclasses the competition here, wiping the floor with not only every mechanical hard drive in the field, but the other SSDs, as well." - 2008*

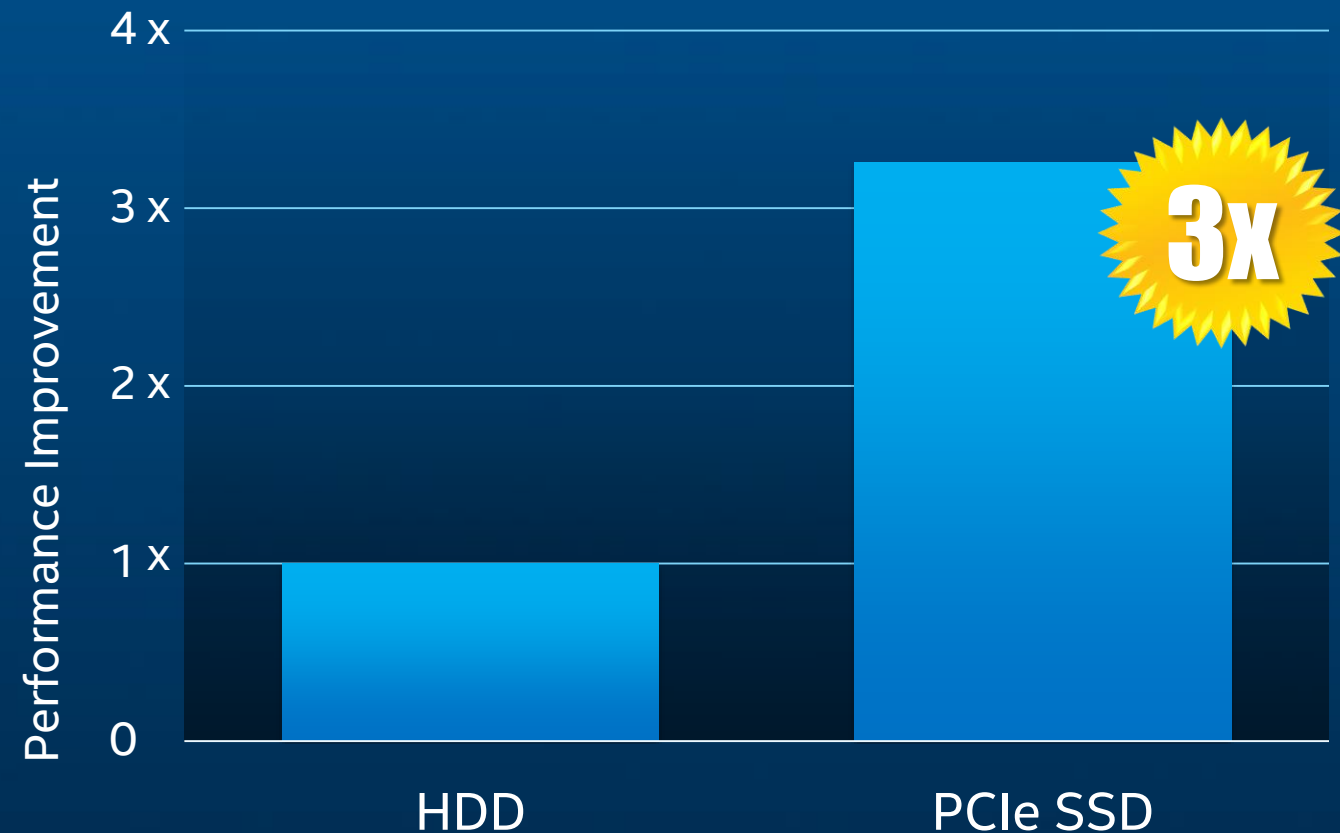
2008 Intel  
Re-invents the SSD

## Industry Computing SSD Revenue



Source: Forward Insights October '14.

# The SSD Difference – Accelerating Big Data



Results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling, and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Other names and brands may be claimed as the property of others.

Intel SSDs improve Hadoop performance by over 3x

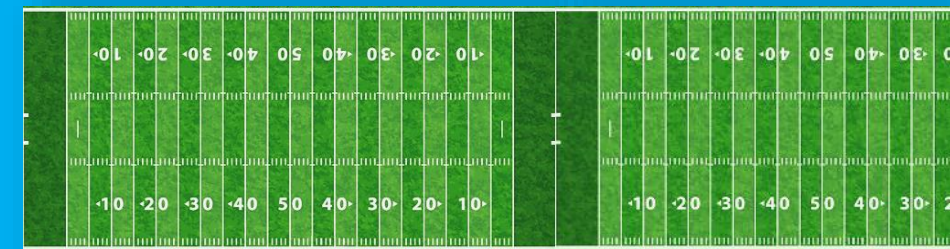
# Innovation and SSD Disruption

SSD: 4 inches of storage  
Performance: 11M I/O per sec



VS

HDD: 500 feet of storage  
Performance: 11M I/O per sec



Just under two American football fields

Results have been estimated or simulated using internal Intel analysis or architecture simulation or modeling, and provided to you for informational purposes. Any differences in your system hardware, software or configuration may affect your actual performance.

Bringing data closer: same performance, smaller footprint





# Addressing IT Pain Points

---



# Platform Optimization Delivers Enhanced Capability



## Better Security Coverage

*Plug known security gaps*



## Better User Experience

*Improve Security UX  
No compromise in security/performance*

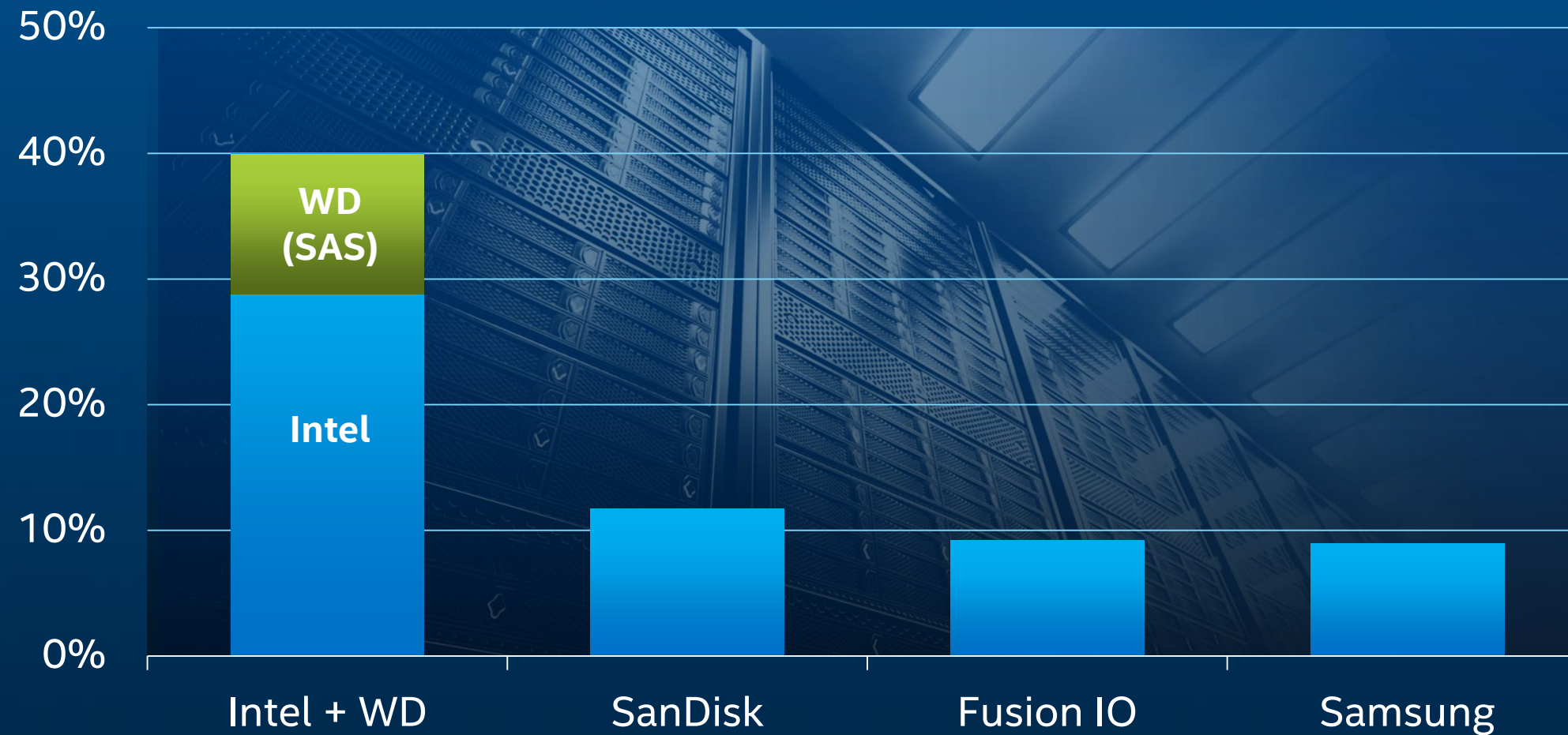


## Better IT Solutions

*Solve IT pain points*

# Data Center Leadership

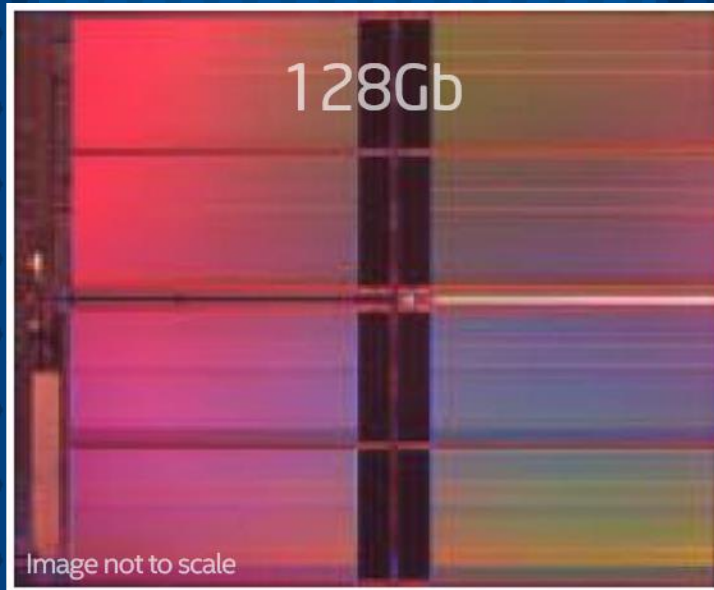
Q2 2014 Data Center Market Segment Share: IDC



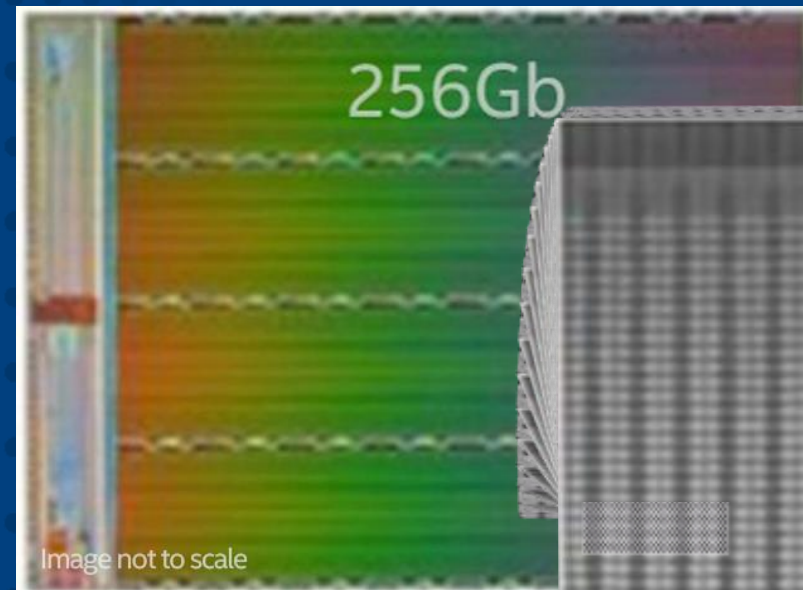
Source: IDC, Worldwide Solid State Drive Quarterly Update: 2Q14, doc #251237, September 2014.

# NAND Leadership

2D NAND



Intel 3D NAND



Disruptive 3D NAND

Breakthrough cost

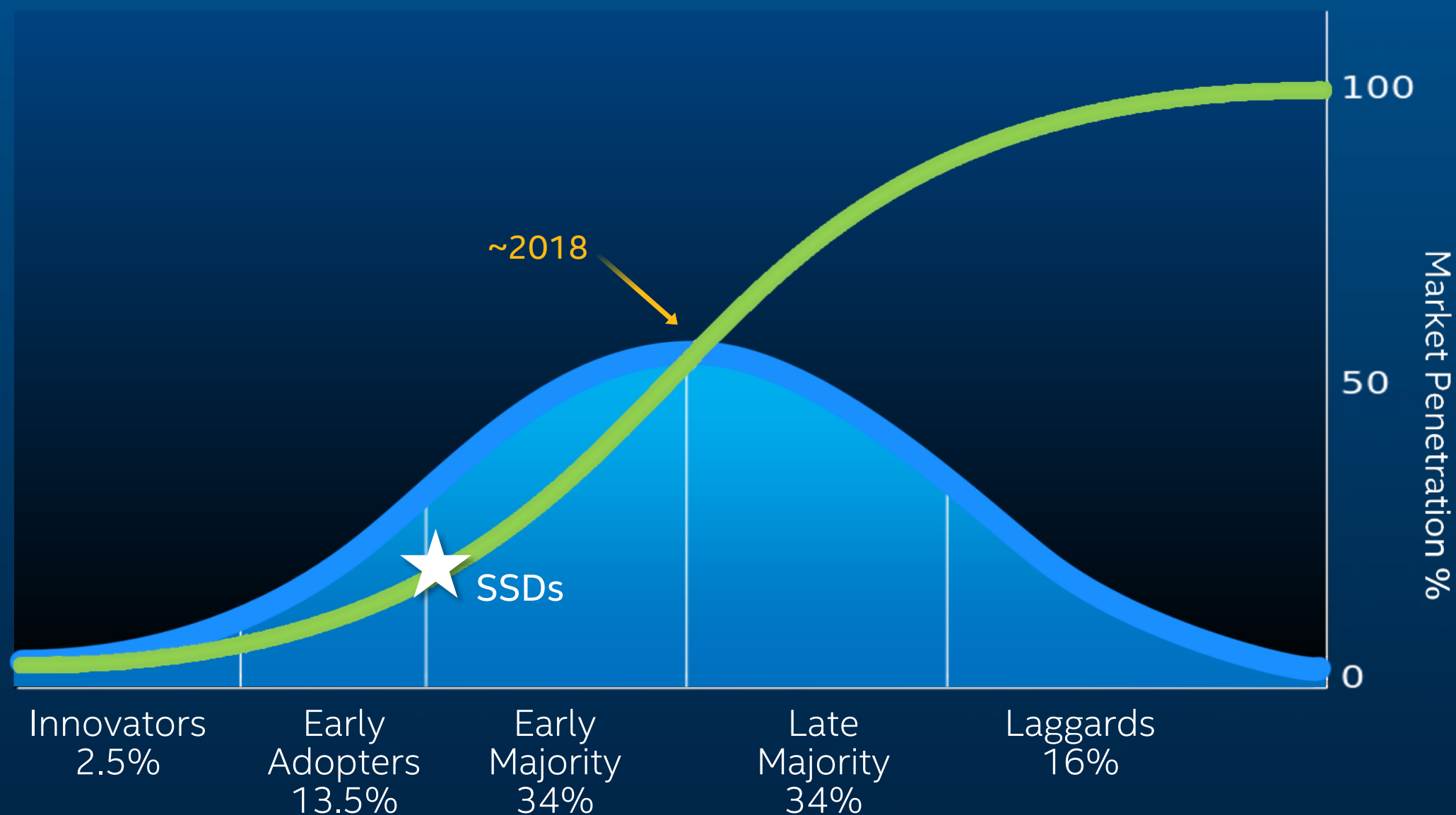
2x bits per die

1 TB in 2mm

>10TB in a SSD

Estimates are based on internal Intel and market based analysis, and provided to you for informational purposes and are subject to change.

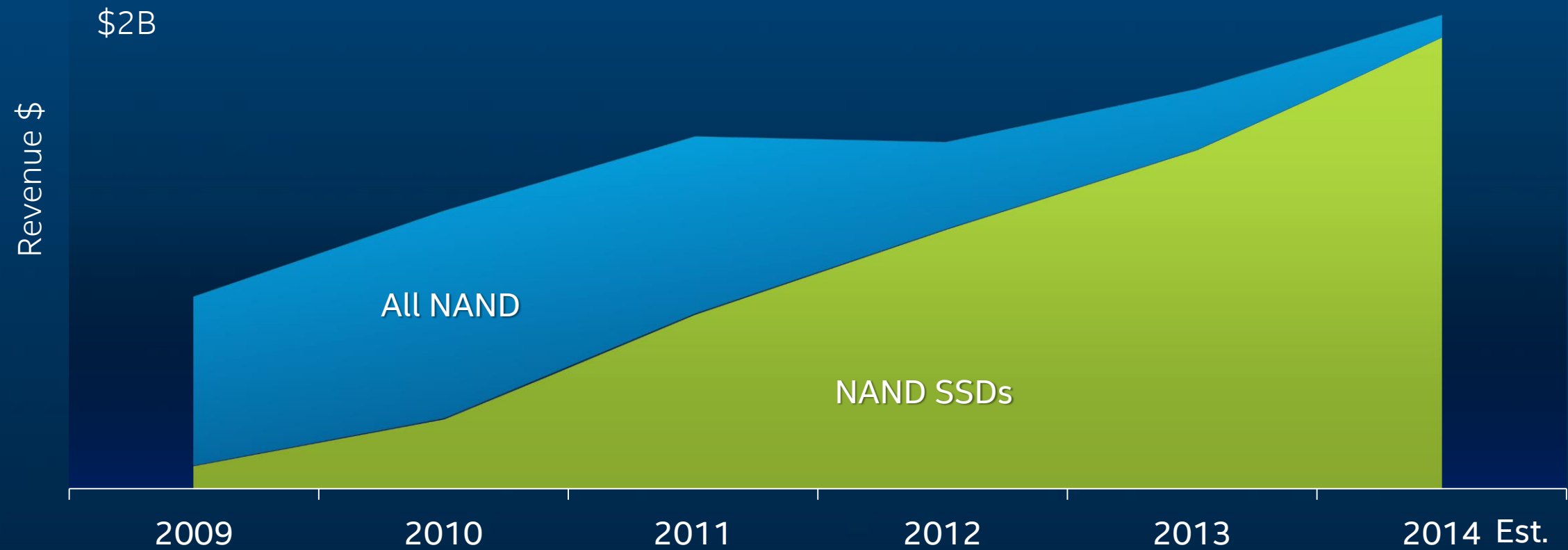
# Tremendous Opportunity



Sources: Intel internal research, and Geoffrey Moore, Crossing the Chasm.

# Growing Revenue in Compute NVM

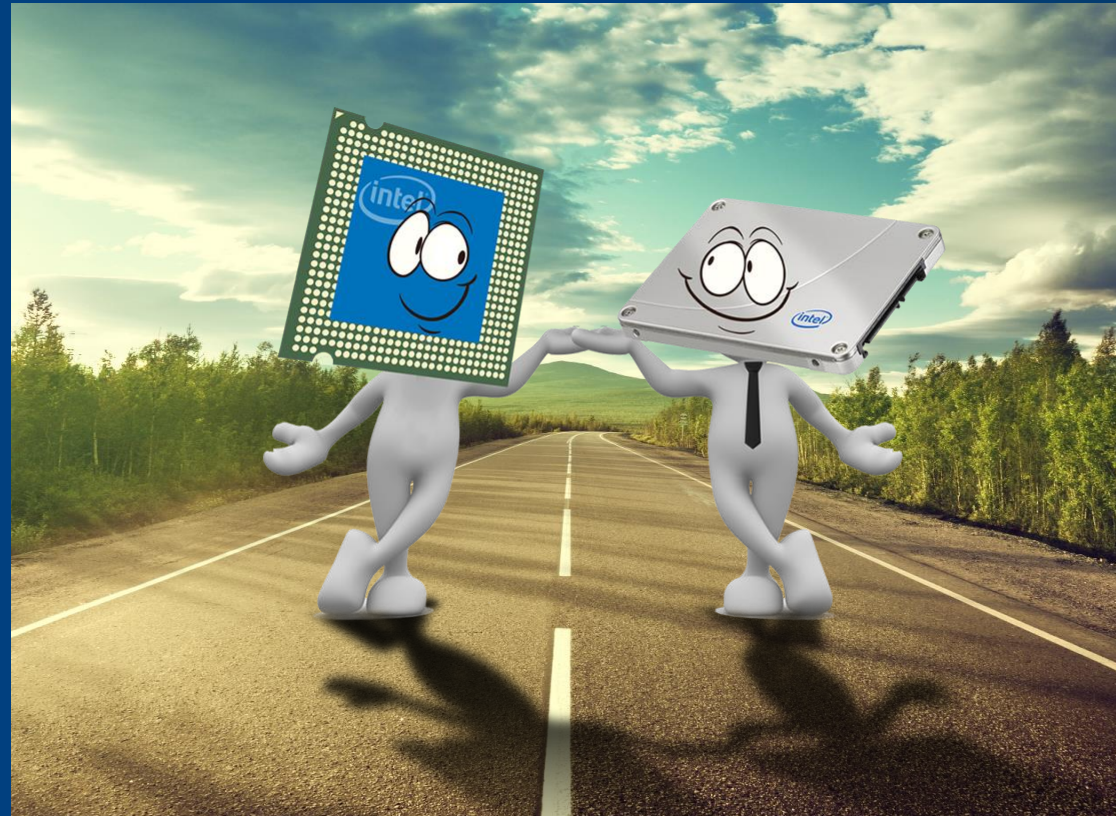
Intel NAND Revenue and SSD Revenue



Source: internal Intel estimates.



# Compute Data: A Growth Opportunity



Technology Driven. Customer Inspired. Platform Connected.



INVESTOR MEETING 2014

Q&A



# Legal Disclaimers

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

All dates, forecasts and products specified in this presentation are subject to change without notice. This presentation will not be updated to reflect any such changes.

Copyright 2014 Intel Corporation.

\*Other names and brands may be claimed as the property of others.

# Risk Factors

The statements in the presentations and other commentary that refer to plans and expectations for the fourth quarter, the year and the future are forward-looking statements that involve a number of risks and uncertainties. Words such as “anticipates,” “expects,” “intends,” “plans,” “believes,” “seeks,” “estimates,” “may,” “will,” “should” and their variations identify forward-looking statements. Statements that refer to or are based on projections, uncertain events or assumptions also identify forward-looking statements. Many factors could affect Intel’s actual results, and variances from Intel’s current expectations regarding such factors could cause actual results to differ materially from those expressed in these forward-looking statements. Intel presently considers the following to be important factors that could cause actual results to differ materially from the company’s expectations.

- Demand for Intel’s products is highly variable and could differ from Intel’s expectations due to factors including changes in the business and economic conditions; consumer confidence or income levels; customer acceptance of Intel’s and competitors’ products; competitive and pricing pressures, including actions taken by competitors; supply constraints and other disruptions affecting customers; changes in customer order patterns including order cancellations; and changes in the level of inventory at customers.
- Intel’s gross margin percentage could vary significantly from expectations based on capacity utilization; variations in inventory valuation, including variations related to the timing of qualifying products for sale; changes in revenue levels; segment product mix; the timing and execution of the manufacturing ramp and associated costs; excess or obsolete inventory; changes in unit costs; defects or disruptions in the supply of materials or resources; and product manufacturing quality/yields. Variations in gross margin may also be caused by the timing of Intel product introductions and related expenses, including marketing expenses, and Intel’s ability to respond quickly to technological developments and to introduce new features into existing products, which may result in restructuring and asset impairment charges.
- Intel operates in highly competitive industries and its operations have high costs that are either fixed or difficult to reduce in the short term.
- The declaration and rate of dividend payments and the amount and timing of Intel’s stock buyback program are at the discretion of Intel’s board of directors, and plans for future dividends and stock buy backs and could be affected by changes in Intel’s priorities for the use of cash, such as operational spending, capital spending, acquisitions, and because of changes to Intel’s cash flows and changes in tax laws.
- Intel’s expected tax rate is based on current tax law and current expected income and may be affected by the jurisdictions in which profits are determined to be earned and taxed; changes in the estimates of credits, benefits and deductions; the resolution of issues arising from tax audits with various authorities, including payment of interest and penalties; and the ability to realize deferred tax assets.
- Gains or losses from equity securities and interest and other could vary from expectations depending on gains or losses on the sale, exchange, change in the fair value or impairments of debt and equity investments; interest rates; cash balances; and changes in fair value of derivative instruments.
- Intel’s results could be affected by adverse economic, social, political and physical/infrastructure conditions in countries where Intel, its customers or its suppliers operate, including military conflict and other security risks, natural disasters, infrastructure disruptions, health concerns and fluctuations in currency exchange rates.
- Intel’s results could be affected by the timing of closing of acquisitions, divestitures and other significant transactions.
- Intel’s results could be affected by adverse effects associated with product defects and errata (deviations from published specifications), and by litigation or regulatory matters involving intellectual property, stockholder, consumer, antitrust, disclosure and other issues. An unfavorable ruling could include monetary damages or an injunction prohibiting Intel from manufacturing or selling one or more products, precluding particular business practices, impacting Intel’s ability to design its products, or requiring other remedies such as compulsory licensing of intellectual property.

A detailed discussion of these and other factors that could affect Intel’s results is included in Intel’s SEC filings, including the company’s most recent Form 10-Q, Form 10-K and earnings release.